



STATE OF WASHINGTON

RADIOACTIVE MATERIALS LICENSE

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Pursuant to the Nuclear Energy and Radiation Control Act, RCW 70.98, and the Radiation Control Regulations, Chapters 246-220 through 246-255 WAC, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; and to use such radioactive materials for the purpose(s) and at the place(s) designated below. **This license is subject to all applicable rules and regulations promulgated by the State of Washington Department of Health.**

1. Licensee Name: <i>PACIFIC ECOSOLUTIONS, LLC</i>	3. License Number: WN-I0508-1 is amended in its entirety to read as follows:
2. Address: 2025 Battelle Boulevard Richland, Washington 99352	4. Expiration Date: August 31, 2008
	5. Reference Number(s):

6. Radioactive Material
(element and mass number).

7. Chemical and/or Physical Form.

8. Maximum quantity licensee may possess
at any one time.

6.A. Any radioactive material
Atomic Numbers 1-83.

7.A. Solid or liquid form
(contamination, as received
or possessed, on equipment
or in waste form).

8.A. 60 curies (2.2 TBq) total,
not to exceed the following
individual isotope activity
limits:

Cobalt-60 – 20 Curies
(740 GBq),

Strontium-90 – 4 Curies
(148 GBq),

Niobium-94 – 4 Curies
(148 GBq),

Cadmium-113m – 2 Curies
(74 GBq),

Europium-154 – 2 Curies
(74 GBq),

Iodine-129 – 0.5 Curie
(18.5 GBq), and



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Lead-210 – 0.1 Curie
(3.7 GBq).

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|--|--|---|
| 6.B. Special Nuclear Material. | 7.B. Solid or liquid form
(contamination, as received
or possessed, on equipment
or in waste form). | 8.B. Not to exceed unity formula
quantities as specified in
WAC 246-220-010 under
the definition "Special
nuclear material in
quantities not sufficient to
form a critical mass." See
License Condition 9. |
| 6.C. Source material. | 7.C. Solid or liquid form
(contamination, as received
or possessed, on equipment
or in waste form). | 8.C. 1000 kilograms total. |
| 6.D. Any other radioactive
material, Atomic Numbers
84-103, except Special
Nuclear Material and
source material. | 7.D. Solid or liquid form
(contamination, as received
or possessed, on equipment
or in waste form). | 8.D. 300 millicuries (11.1 GBq)
total. |
| 6.E. Radioactive material,
Atomic Numbers 1-103,
except Special Nuclear
Material and source
material. | 7.E. Liquid material or waste; dry
packaged material or waste. | 8.E. 1 curie (37 GBq). |

CONDITIONS

9. Authorized use.

- A-D. (1) For cutting, shearing, shredding (TP-01), compaction, supercompaction, and macro-encapsulation of dry waste, excluding explosive or highly flammable materials. This waste shall be kept onsite for no more than twelve (12) months from date of receipt.



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- (2) For solidification mixing (TT-02; low-capacity mixer) of liquid wastes, excluding explosive or highly flammable materials. This waste shall be kept onsite for no more than twelve (12) months from date of receipt.
 - (3) For in-container mixing/neutralization (TT-03; in-container mixer) of liquid waste, excluding explosive or highly flammable materials. This waste shall be kept onsite for no more than twelve (12) months from date of receipt.
 - E. For use in the development of new techniques for treating radioactive material or waste in order to reduce the volume of waste which must be disposed. A detailed work plan shall be submitted to the department in writing at least one month in advance of the planned work, and the project shall not begin until written approval is received from DOH.
- 10. Radioactive material shall be received, stored, and processed only at 2025 Battelle Boulevard, Richland, Washington.
 - 11. The licensee shall comply with the provisions of WAC 246-220, "General Provisions;" WAC 246-221, "Radiation Protection Standards;" WAC 246-222, "Radiation Protection - Worker Rights;" WAC 246-232, "Licensing Applicability;" WAC 246-235 "Specific Licenses;" WAC 246-247, and "Radiation Protection - Air Emissions."
 - 12. The Radiation Safety Officer for this program shall be Curt Cannon, assisted by a dedicated staff that includes (A) a Radiological Engineer or Health Physics Manager, and (B) a Dosimetry Control Clerk. The licensee shall notify the department in writing 30 days prior to any changes in the licensee business structure, and shall notify the department with the appointment of a new Site Manager or RSO.
 - 13. Radioactive material shall be used by, or under the direct supervision of Ray Beasley, Timothy A. Burckhard, Scott Call, Curt N. Cannon, Tom Huntley, Dakin Utley, Rob Fredrick, Bradley Mulliner, Geoff Hayes, Canyon Hoopes, Darrell Orth, Joe Schroeder, Rodney Turnidge, and/or Zane Turner.
 - 14. The licensee's emergency procedures shall conform to guidelines in the ATG Richland Mixed Waste Facility Operations Manual, Section 4.13.
 - 15. The licensee shall maintain records of receipt, storage, and transfer of all radioactive material authorized by this license. These records shall be kept for inspection at 2025 Battelle



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Boulevard, Richland, Washington.

16. Approved procedures shall be contained in the ATG Richland Mixed Waste Operations Procedures (MWOP). New or revised procedures shall be reviewed and approved as described in AROP 102, "Revisions to the Operational Procedures." Departmental approval of new or revised procedures shall constitute incorporation by reference of those procedures.
17. The licensee shall establish in every contractual obligation, relating to radioactive materials, the ability to return radioactive materials, processed or unprocessed, to the prior licensed possessor.
18. The licensee is exempt from WAC 246-221-160(3) (3-hour survey requirement), provided the requirements of the Mixed Waste Operations Manual (MWOM) and DOH-approved Mixed Waste Operating Procedures (MWOP's) are adhered to.
19. Received waste shall be packaged in such a manner that waste containers received at the facility do not show:
 - A. Significant deformation.
 - B. Loss or dispersal of contents.
 - C. An increase in the external radiation levels as recorded on the manifest, within instrument tolerances.
 - D. Degradation due to rust or other chemical action which results in a loss of container integrity.
20. Waste shipments shall not be accepted at the facility unless accompanied by the following (a single shipment shall consist of not more than one vehicle or one tractor with legal trailer(s) attached):
 - A. Shipment manifest approved by DOH, Office of Radiation Protection, Waste Management Section.
 - B. Washington State Patrol vehicle inspection certificate or current visible Washington State 90-day vehicle inspection seal.
 - C. Properly executed current DOH Form RHF-31.



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D. Upon Department of Health's request, other permits or documentation required under this license, or state or federal law or regulation.

21. Decommissioning of the licensed facility will be initiated within 12 months after operations have ceased, in accordance with applicable regulations.
22. Waste onsite before November 19, 2001 (i.e., bankruptcy legacy waste totaling about 385,000 lbs) shall be removed from the facility to a licensed receiver (e.g., disposal facility, broker, or original generator) by September 15, 2004.

Commencing September 16, 2004, DOH, Waste Management approval of incoming waste will be required if all legacy waste is not removed by September 15, 2004.

23. The licensee shall have and maintain a Washington State Office of Radiation Protection-approved financial surety arrangement adequate to cover decommissioning of the facility and disposal of all radioactive material possessed under the license. This arrangement is described in the July 7, 1999 Permit for Storage and Treatment of Mixed Waste and TSCA Regulated PCB Waste. The basis for the financial estimates shall be reviewed and adjusted as necessary annually. This review shall be provided to the Office of Radiation Protection, Waste Management Section by March 1 of each year. The licensee shall obtain and have in place a standby trust agreement acceptable to the department by September 26, 2003.
24. Except as specifically provided by this license, the licensee shall possess and use radioactive material described in Items 6, 7, and 8 of this license in accordance with statements, representations and procedures contained in the documents listed below, which are incorporated by reference into this license, and the department's "Rules and Regulations for Radiation Protection." The department's "Rules and Regulations for Radiation Protection" shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations. Except as provided in License Condition 16, any change to the documents listed below shall require departmental approval in the form of an amendment to this license.
 - A. Application and attachments dated April 8, 1998.
 - B. Letter dated November 19, 1998, RE: Application Item #29 signature of senior management.



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- C. Letter dated April 26, 2000, RE: Increase activity limits, add source material storage condition, additional authorized users and update MWOM.
- D. Letter dated May 30, 2000, RE: Delete source material in storage request and R. Grondin from April 26, 2000 amendment request letter.
- E. Letter dated August 9, 2000, RE: Add GASVITTM Building to authorized storage locations and remove Phil Clash from authorized user list.
- F. Letter dated October 11, 2000, RE: Add TT-03 (liquid treatment) to license, demonstration testing of MSO system, change RSO to Curt Cannon and remove Wayne Gregory from authorized user list.
- G. Letter dated November 20, 2000, RE: Response to DOH request for additional information regarding liquid treatment and molten salt oxidation system demonstration.
- H. Letter dated December 15, 2000, RE: Response to DOH request for additional information regarding waste form demonstrations.
- I. Letter dated December 19, 2000, RE: Variance request for source material increase to 500 kg under Conditions 9.A-D, and 500 kg under a new part of Condition 9.
- J. Letter dated January 11, 2001, RE: Add source material storage provision, shredder, low-capacity mixer, authorized users, WAC exemption, and MWOM changes.
- K. Letter dated February 9, 2001, RE: Withdrawn source material storage provision request, revised authorized users, request R & D condition, and additional GASVIT demonstration authorization.
- L. DOH's letter dated March 5, 2001, RE: Administrative changes to ATG amendment.
- M. DOH's letter dated April 3, 2001, RE: Implementing the March 5, 2001 letter with the exception of the RHF-31 clause.
- N. DOH's letter dated April 6, 2001, RE: Clarifying DOH's April 3, 2001 letter.
- O. Letter dated September 4, 2001, RE: Adjust subitems 8.A and 8.D, minor Condition 9 changes, and add/remove authorized users.



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- P. Letter dated September 27, 2002, RE: Move all material to processing portion of license, remove storage conditions, add/remove users, add new condition regarding decommissioning and update MWOM.
- Q. ATG's Mixed Waste Operations Manual dated November 18, 2002.
- R. Letter dated June 19, 2003, RE: Change company name, add process, add users, add new condition regarding waste onsite when ATG shutdown.

FOR THE STATE OF WASHINGTON DEPARTMENT OF HEALTH

Date September 16, 2003

By

Mikel Elsen, Supervisor
Waste Management Section

